

# EUROPEAN PATENT OFFICE

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TITLE : BIODEGRADABLE ORIENTED FILM

ABSTRACT : PROBLEM TO BE SOLVED: To obtain the subject film having excellent tensile strength, tensile modulus, and haze value, by at least unidirectionally orienting a composition in which a hydroxybutyrate/hydroxyvalerate copolymer and a polylactic acid- based polymer are the essential components.

SOLUTION: This film is obtained by melting/blending a composition in which (A) a 3-hydroxybutyrate/3-hydroxyvalerate copolymer and (B) a polylactic acid-based polymer are the essential components, followed by extrusion, cooling, and then orientation at least unidirectionally. The component A includes an aliphatic polyester-based biodegradable polymer having a melting point of 140-180°C and a number average molecular weight ( $M_n$ ) of  $10^4$ - $10^6$ , which is produced by a microorganism such as *Alkaligenes eutrophus*. The weight ratio of the component A vs. the component B is (80:20)-(20:80), preferably (70:30)-(30:70). This method allows to produce the objective film that is finally biologically degraded in nature into harmless water and carbon dioxide.

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